

Appl. No. 09/723,366
Amdt. Dated 10/26/2004
Reply to Final Rejection of 08/04/2004

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Listing of Claims:

Claims 1-15 (canceled)

Claim 16 (previously amended) The system in accordance with claim 17 wherein said encapsulated Internet Protocol packet further includes a switching label and an Internet Protocol destination address corresponding to said target base station and said target base station includes means for removing said Internet Protocol destination address from said copy of said data unit and means responsive to said switching label for determining an outgoing channel to said mobile.

Claim 17 (currently amended) A system for providing a soft handoff of a mobile from a serving base station to a target base station in an Internet Protocol based code division multiple access network, wherein said base stations are autonomous and without a centralized network entity that distributes user traffic to both the serving base station and the target base station, said system comprising

~~means for transmitting a data packet unit from said serving base station to said mobile;~~

means at said serving base station for combining upper layer packets with data at one layer to produce lower layer packets, for adding a label to said lower layer data packets to produce a remote layered data packet, and for adding a header to said remote layered data packet to produce an encapsulated Internet Protocol packet including a copy of said lower layer data packet unit;

means at said serving station for transmitting a data packet unit including said lower layer data packets from said serving base station to said mobile;

means at said serving base station for transmitting said encapsulated remote layered data packet including said remote layered lower layer data packets to said target base station;

means at said target base station for relaying said encapsulated remote layered data packet to said mobile without repeating the processing done at said serving base station for constructing said lower layer data packets; and

means at said mobile for combining the lower layer packets of said copy of said data packet unit from said target base station with the lower layer packets of said data packet from said serving base station to effectuate the soft handoff.

Claim 18 (currently amended) A method for soft handoff of a mobile from a serving base station to a target base station in an Internet Protocol (IP) wireless packet switched network wherein said base stations are autonomous without a centralized control, said method comprising the steps of

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at the serving base station processing packets in a protocol layer to produce a remote layered lower layer data packet that the target base station can use as if generated at the target base station and including lower layer data packets and adding an IP header to the remote layered lower layer data packet so as to create an IP encapsulated remote layer data packet;

transmitting a data packet unit including lower layer data packets from the serving base station to said mobile;

transmitting from said serving base station said encapsulated remote layered data packet to said target base station; and

said target base station removing said remote layered lower layer data packet from said IP encapsulated remote layered data packet and relaying said removed remote layered lower layer data packet to said mobile and

combining at said mobile the lower layer packets of said data packet from said serving base station and the lower layer packets from said removed remote layered data packet from said target base station.

Claim 19 (previously added) The method of claim 18 wherein said step of transmitting said IP encapsulated remote layered data packet comprises sending said IP encapsulated remote layered data packet to said target base station via an IP network.

Claim 20 (currently amended) A method for soft handoff of a mobile from a serving base station to a target base station in an Internet Protocol (IP) based network wherein said serving and target base stations are autonomous without a centralized control, said method comprising the steps of

transmitting over air a data packet including lower layer data packets from said serving base station to said mobile;

at said serving base station combining upper layer packets with data at one layer to produce lower layer packets, adding a label to said lower layer data packets to produce a remote layered data packet, and adding an IP header to said remote layered data packet to produce an encapsulated IP packet including a copy of said data packet;

sending from said serving base station to said target station said encapsulated IP packet including said remote layered data packet through a cross layer tunnel between said base station and said target base station;

said target base station removing said remote layered packet from said encapsulated IP packet and relaying said remote layer data packet to said mobile; and

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combining at said mobile the lower layer data packets of said data packet from said serving base station and the lower layer data packets of said remote layer data packet from said target base station.

Claim 21 (currently amended) The method in accordance with claim 20 wherein said step of combining at said mobile comprises the steps of

comparing the lower layer data packets received from the serving base station with the lower level data packets of the remote layered data received from said target base station,

if said step of comparing indicates a match, then combining the data from said serving base station and the data from said target base station; and

if said step of comparing does not indicate a match, then further comparing N data blocks from said serving base station with data from said target base station until a match is obtained.